

### **REMARKS/ARGUMENTS**

Claims 1-27 are pending in this application. Claims 1, 13, 25, 26, and 27 are independent claims.

Applicant kindly requests favorable reconsideration of the application in view of the following discussion.

The Examiner has asked the applicant to show that claims 1-27 are patentable in view of Iwasaki (USPN 5,623,417). **M.P.E.P. § 2131** states: "A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." Iwasaki fails to describe every element set forth in claims 1-27, and thus fails to anticipate claims 1-27.

#### **Claim 1**

Claim 1 is divided into four primary limitations. The first limitation is:

"providing a description of a physical design of a circuit or system having physical components and in which at least one of the physical components may transfer a signal to at least one physical component, wherein the physical design description includes an identification of the physical components and information descriptive of physical inter-connectivity among the physical components"

The Examiner submits that Iwasaki teaches this limitation in Figs. 2 & 3, and cols. 4, 9, & 10. Fig. 2 is a block diagram showing a "functional data interface apparatus," and does not describe a physical design of a system. Fig. 3 is a tree-structure diagram illustrating functional components. Fig. 3 is also silent on providing a physical design with physical components. Col. 4 describes Figs. 1 & 2, which deal with functional components and processes. Cols. 9 & 10 describe in detail the functional process of Iwasaki. Thus Iwasaki does not disclose providing a description of a physical design of a circuit having physical components. Iwasaki is also silent on the identification including information descriptive of physical inter-connectivity among the physical elements.

The second limitation of claim 1 is:

"providing a signal transfer description for at least one signal transfer, the signal transfer description including a set of source nodes and a set of receiver nodes, wherein the set of source nodes provide the signal to be transferred and the receiver nodes receive the signal transferred from the corresponding set of source nodes, and wherein each node is described by information associated with physical components"

The Examiner submits that Iwasaki teaches this limitation in col. 12, line 64 to col. 13, line 67. This section describes a data transfer process. Iwasaki deals with classifying a transfer between two or more logical functions based on the logical functions in the data paths between them. In addition, these logical functions are contemplated to all reside on a single integrated circuit. It is important to remember that Iwasaki teaches "manipulating the storage and retrieval of functional data of a logical circuit into and out of a function database" (col.1, lines 6-10). Iwasaki is silent on teaching providing a signal transfer description that includes physical source nodes and receiver nodes. Thus Iwasaki does not teach this limitation.

The third limitation of claim 1 is:

"identifying a signal transfer description as corresponding to at least a portion of the physical inter-connectivity information"

The Examiner submits that Iwasaki teaches this limitation in col. 13, lines 30-67. Iwasaki is silent on the physical inter-connectivity information as Iwasaki teaches only functional processes of data manipulation.

The fourth limitation of claim 1 is:

"using information in the corresponding signal transfer description to construct computer simulations or analyses of the corresponding physical inter-connectivity"

The Examiner appears to cite no section of Iwasaki to teach this limitation. Nevertheless, Iwasaki does not teach this limitation. First, Iwasaki does not disclose constructing or building computer simulations or analyses to test physical components.

Second, because Iwasaki does not teach the first three limitations of claim 1, it is impossible for Iwasaki to teach the fourth limitation since the fourth limitation incorporates limitations taught in the first three limitations.

In addition to not anticipating the present invention, Iwasaki does not relate to the present invention. Iwasaki is a functional database manipulator. Iwasaki teaches a functional data interface method for unifying databases, converting data to suit the databases, and generating arbitrary data for functional design automation tools. (col.1, line 61 to col. 2, line 2.) The present invention, however, relates to signal integrity testing to analyze circuit and system design.

A key difference between the present invention and Iwasaki is demonstrated by understanding the difference between **physical components** and **functional components**. While the present invention applies to analog elements, Iwasaki applies to functional/digital elements. The present invention constructs computer simulations to evaluate signal integrity, or the analog behavior of how a signal changes back and forth between logical voltage levels. The present invention can be applied to metal and analog components such as resistors, connectors, and diodes. These are not functional components such as a data interface and a database—the focus of Iwasaki. With Iwasaki relating to functional components, and the present invention relating to physical components, trying to compare Iwasaki to the present invention is like trying to compare apples to oranges. Iwasaki does not teach, suggest, or contemplate the present invention.

Iwasaki fails to teach each and every element, either expressly or inherently, as set forth in claim 1 of the present invention. Furthermore Iwasaki teaches not one limitation of claim 1. Therefore claim 1 is patentable over Iwasaki.

## Claims 2-12

Claims 2-12 depend on independent claim 1. If an independent claim is not anticipated by a reference, then any claim depending from the independent claim is not anticipated by the reference. Claims 2-12 each depend from independent claim 1. As

shown above, claim 1 is not anticipated by Iwasaki since Iwasaki does not teach each and every element of claim 1. As dependent claims, claims 2-12 incorporate the limitations of claim 1 by reference and are thus not anticipated by Iwasaki. Therefore, claims 2-12 are patentable over Iwasaki.

### **Claim 13**

Independent claim 13 is substantially similar to independent claim 1. Claim 1 claims a method and claim 13 claims a system, but both are used for automatically creating computer simulations or analyses of signal transfers of a circuit or system design, and recite substantially similar limitations. As shown above, claim 1 is not anticipated by Iwasaki since Iwasaki does not teach each and every element of claim 1. Likewise, claim 13 is not anticipated by Iwasaki for the same reasons. Therefore, claim 13 is patentable over Iwasaki.

### **Claims 14-24**

Claims 14-24 depend on independent claim 13. If an independent claim is not anticipated by a reference, then any claim depending from the independent claim is not anticipated by the reference. Claims 14-24 each depend from independent claim 13. As shown above, claim 13 is not anticipated by Iwasaki since Iwasaki does not teach each and every element of claim 13. As dependent claims, claims 14-24 incorporate the limitations of claim 13 by reference and are thus not anticipated by Iwasaki. Therefore, claims 14-24 are patentable over Iwasaki.

### **Claims 25 & 26**

Independent claims 25 and 26 are substantially similar to independent claim 1. Claim 1 claims a method and claims 25 and 26 claim a computer program product, but all are used for creating computer simulations or analyses of signal transfers of a circuit or system design, and recite substantially similar limitations. As shown above, claim 1 is not anticipated by Iwasaki since Iwasaki does not teach each and every element of claim 1.

Likewise, claims 25 and 26 are not anticipated by Iwasaki for the same reasons. Therefore, claim 25 is patentable over Iwasaki.

### **Claim 27**

Independent claim 27 claims a method of validating design libraries having information descriptive of physical components. Like the second limitation of claim 1, the first limitation of claim 27 claims "providing a signal transfer description for at least one signal transfer." As discussed above, Iwasaki does not disclose this limitation. The second limitation of claim 27, "identifying a physical component corresponding to a source node in the signal transfer description", is also not taught by Iwasaki. As discussed above, Iwasaki does not teach or relate to physical components, but instead relates to functional components. The remaining limitations of claim 27 go into further detail on verifying and identifying physical components. The Iwasaki disclosure of functional components does not teach these remaining limitations. Thus Iwasaki fails to teach each and every element as set forth in claim 27 of the present invention. Therefore claim 27 is patentable over Iwasaki.

### **Summary**

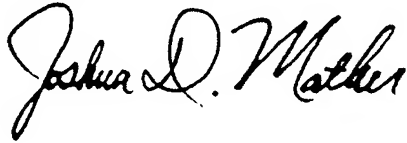
Applicant appreciates the effort the Examiner gave in the first office action by doing a thorough search and rejecting each claim on all grounds available (MPEP 707.07g) to avoid piecemeal rejections. Applicant observes from the Office Action that there were no valid rejections under 35 USC § 103.

The Examiner presented rejections under 35 USC § 102 for the Applicant to demonstrate how the cited reference does not anticipate. The present invention is patentable over Iwasaki because Iwasaki does not disclose each and every element of the claims as set forth in the present invention.

For all the reasons advanced above, Applicant respectfully submits that the application is in condition for allowance. Applicant respectfully requests that a timely Notice of Allowance be issued in this case.

Appl. No. 10/087,297  
Amdt. Dated March 15, 2006  
Reply to Office Action of September 22, 2005  
Atty. Docket No. 04.0152

Respectfully Submitted,

A handwritten signature in black ink, reading "Joshua D. Mather". The signature is written in a cursive, flowing style.

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Date: 03-15-2006

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